

FEB 1 1990

DOCKET NO: 40-7580

LICENSEE: Fansteel, Inc.

FACILITY: Muskogee Plant
Muskogee, Oklahoma

SUBJECT: SAFETY EVALUATION REPORT, REVISED APPLICATION DATED OCTOBER 16, 1987 (SUBMITTED BY LETTER DATED NOVEMBER 3, 1987), AND SUPPLEMENTS DATED APRIL 20, 1988, AND FEBRUARY 28, AND JUNE 22, 1989, RE LICENSE RENEWAL

I. INTRODUCTION

A. General

By application dated June 27, 1986, Fansteel, Inc., (FI) requested renewal of Source Material License No. SMB-911 authorizing the receipt, possession, use, and transfer of natural uranium and thorium contained in tin slags, ores, and process residues. In response to the staff's questions and comments, FI submitted by letter dated November 3, 1987, a revised application dated October 16, 1987. FI submitted supplemental information dated April 20, 1988, and February 29, June 22 and September 12, 1989. Environmental information was submitted on June 27, 1986, and June 13 and August 14, 1987.

The Environmental Assessment for the license renewal application has not been completed. Accordingly, the license will be revised in its entirety. The license renewal will follow publication of the Environmental Assessment.

B. Site Description

The FI facility is located on approximately 110 acres in Muskogee County, Oklahoma, northeast of the city of Muskogee. The facility boundaries are the Arkansas River to the east, U.S. Highway 62 to the south, State Highway 165 and a service road to the west, and the Muskogee Port Authority (MPA) to the north. The land owned by MPA is used for industrial purposes.

C. License History

FI was first issued a license on January 27, 1967, which authorized processing of ores containing ≤ 1 percent source material, for recovery of columbium and tantalum. The license was last renewed on January 27, 1970, and has remained active via amendments. Since the last renewal, the license expiration date has been extended three times and was scheduled to expire on July 31, 1986. However, on June 27, 1986, FI filed an application for renewal. In accordance with the timely renewal provisions of 10 CFR 40.43(b), the license will remain in effect until final action is taken on the renewal application.



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II. AUTHORIZED ACTIVITIES

FI receives materials including tin slags, ores, and ore concentrates for recovery of tantalum and columbium. The tantalum and columbium are separated from these materials and processed into semifinished and finished products for industrial applications. Source material contained in the feed materials remains in the process residues.

A. Process Description

The tin slags, ores, and concentrates received by the licensee are stored in steel drums on a concrete storage pad or in a warehouse prior to processing. Depending upon the physical condition and constituents, the ores and concentrates may require size reduction to facilitate dissolution. These materials are pulverized in a vibratory or ball mill. The milled material is sized and stored in steel drums. The unmilled tin slags are sized and crushed prior to the dissolution process.

Milled and unmilled materials are dissolved in aqueous hydrofluoric acid on a batch basis. The dissolution slurry is transferred to an extraction tank where the soluble fluoride compounds of tantalum and columbium are preferentially extracted by contacting with methyl isobutyl ketone. The extracted tantalum and columbium compounds are further processed into semifinished and finish products. The remaining slurry consists of insoluble fluorides and the source material.

Following the extraction process, the undissolved fraction (residues) of the slurry is removed in a clarifying pond or by a filter press or some other mechanical separation device. The wet residues collected by filtration are placed in polyethylene-lined drums for storage. The liquid fraction is neutralized and processed along with other plant liquids primarily to remove fluorides and other solids.

B. General Summary

The general activities being assessed in this safety review include:

1. Receipt and storage of tin slags, ores, and ore concentrates.
2. Sizing, crushing, milling, conveying, and dissolution of these materials.
3. Recovery of columbium and tantalum by solvent extraction.
4. Collection and handling of solid process residues.
5. Liquid and air effluent controls.

III. POSSESSION LIMITS

The licensee has requested the following materials, forms, and quantities of source materials:

<u>Material</u>	<u>Form</u>	<u>Quantity</u>
A. Natural uranium	A. Tin slags, ores, ore concentrates, and process residues	A. 30,000 kg uranium
B. Natural thorium	B. Tin slags, ores, ore concentrates, and process residues	B. 67,000 kg thorium

These possession limits are in the current license. The licensee's request that the natural thorium uranium and quantities be increased by 20,000 and 33,000 kilograms, respectively, will be evaluated in the Environmental Assessment and addressed in the license renewal.

IV. LICENSE APPLICATION

A. License Application

The safety review of the FI renewal application included the revised application dated October 16, 1987, and supplements dated April 20, 1988, and February 28 and June 22, 1989. The revised application was submitted in response to the staff's review of the original renewal application dated June 27, 1986. During the same month that the renewal application was submitted, the staff visited the facility. Prior to the application submittal, representatives of FI and their consultant, NUS, met with NMSS staff to discuss the license renewal process. An additional staff visit was made on December 22, 1988, when staff accompanied a Region IV inspector during a routine inspection of the FI facility. Comments on the revised application were provided by Region IV staff and are addressed in this review.

In addition, FI has submitted amendment applications dated February 28, June 21, and September 12, 1989. The applications dated February 28 and June 21, 1989, reiterate the supplemental information discussed above and, therefore, are addressed in this review. However, the amendment application dated September 12, 1989, and the supplement dated September 12, 1989, to the revised renewal application are not included in this review but will be addressed in separate correspondence.

B. Compliance History

The licensee's compliance history was reviewed for the period following the June 27, 1986, renewal application. During this period, two routine and three special inspections were conducted that identified seven Severity Level IV

Violations. These noncompliance items are described in inspection reports 87-01, 87-02, 88-01, 89-01, and 89-02 and concerned radioactive material concentrations in liquid effluents; contamination surveys; instrument calibrations; the review and approval of operating procedures; and the administration of programs for monitoring ground water, liquid effluents, and workers' exposures to airborne radioactivity and external radiation. The licensee has completed actions to correct the identified deficiencies.

C. Current Application

Using the revised application, as supplemented, the staff reviewed the licensee's commitments concerning organization and administration of the radiation safety program. The proposed commitments are in Part 1, Chapters 1 through 5; Part 2, Chapter 6, paragraphs 5 and 6 on page 6-5, and Sections 6.3 and 6.4; and Sections 3.1, 3.2, and 3.3 of the Radiation Safety Manual. The remaining parts of Part 2 and the Radiation Safety Manual describe current or proposed activities at the site and demonstrate FI's administrative practices and technical capabilities. Accordingly, the staff recommends the following condition to incorporate the licensee's commitments into the license:

Authorized use: For use in accordance with statements, representations, and conditions contained in Part 1 (Chapters 1 through 5), Part 2 (paragraphs 5 and 6 on page 6-5 and Sections 6.3 and 6.4 in Chapter 6), and the Radiation Safety Manual (Sections 3.1, 3.2, and 3.3) of the revised application dated October 16, 1987 (submitted by letter dated November 3, 1987); and supplements dated April 20, 1988; and February 28 and June 22, 1989.

V. FACILITIES

The requested materials will be used for the recovery of columbium and tantalum at Fansteel's existing facilities located at Number Ten Tantalum Place, Muskogee, Oklahoma. The relative locations of the facilities are shown in Figure 1. To clarify the place of use in the license, the staff recommends the following condition:

Authorized place of use: The licensee's existing facilities at Muskogee, Oklahoma.

VI. ORGANIZATION AND ADMINISTRATION

The following sections contain a description of the principal aspects of the organization and safety program.

A. Organization

Fansteel, Inc., is incorporated in the State of Delaware with its corporate office at North Chicago, Illinois, and facilities at Muskogee, Oklahoma. The licensee's organization for the Muskogee facility is shown in Figure 2.

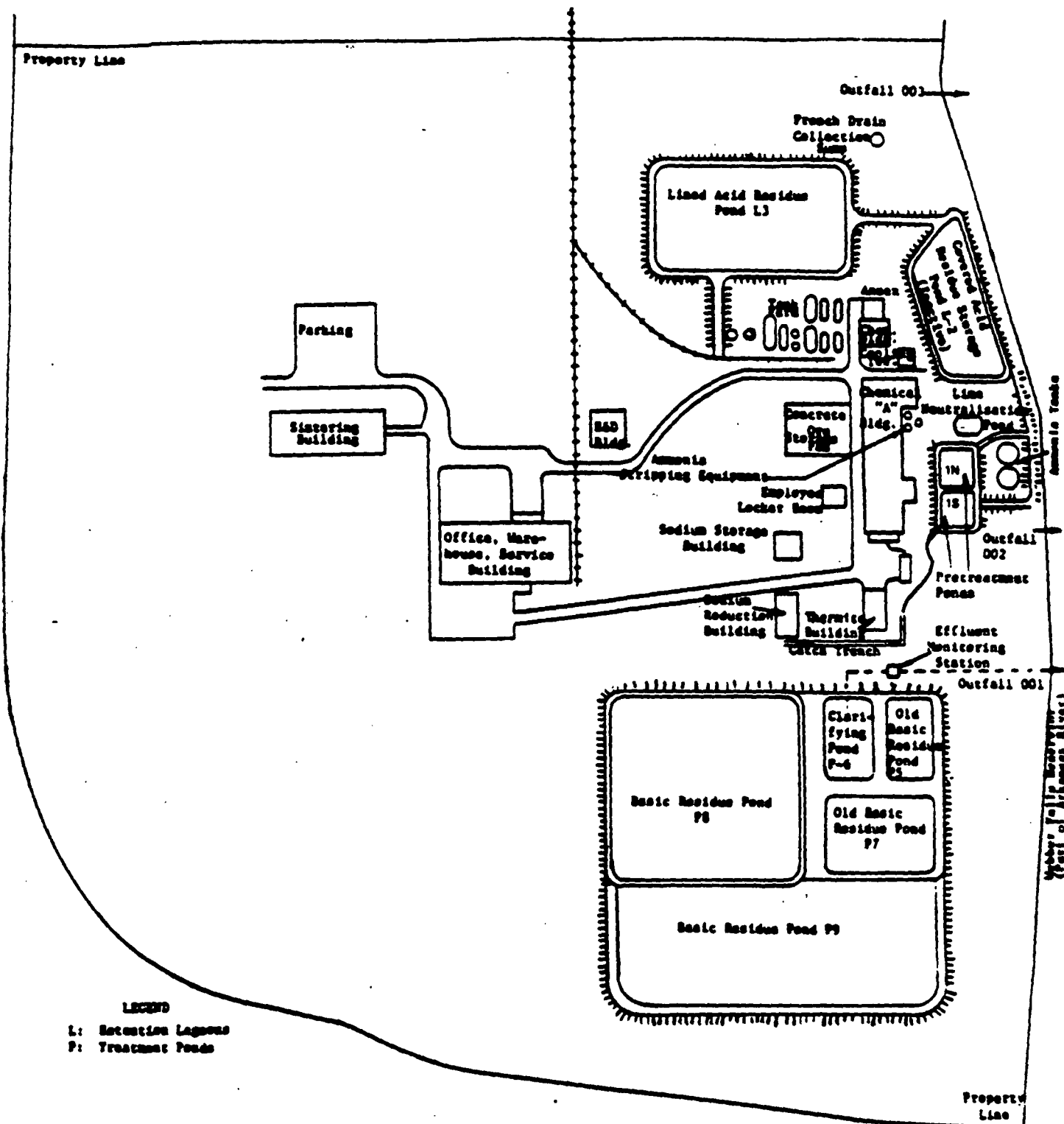


Figure 1 Plot of Fansteel Muskogee plant identifying the facilities

**FANSTEEL INC.
MUSKOGEE PLANT**

ORGANIZATIONAL CHART

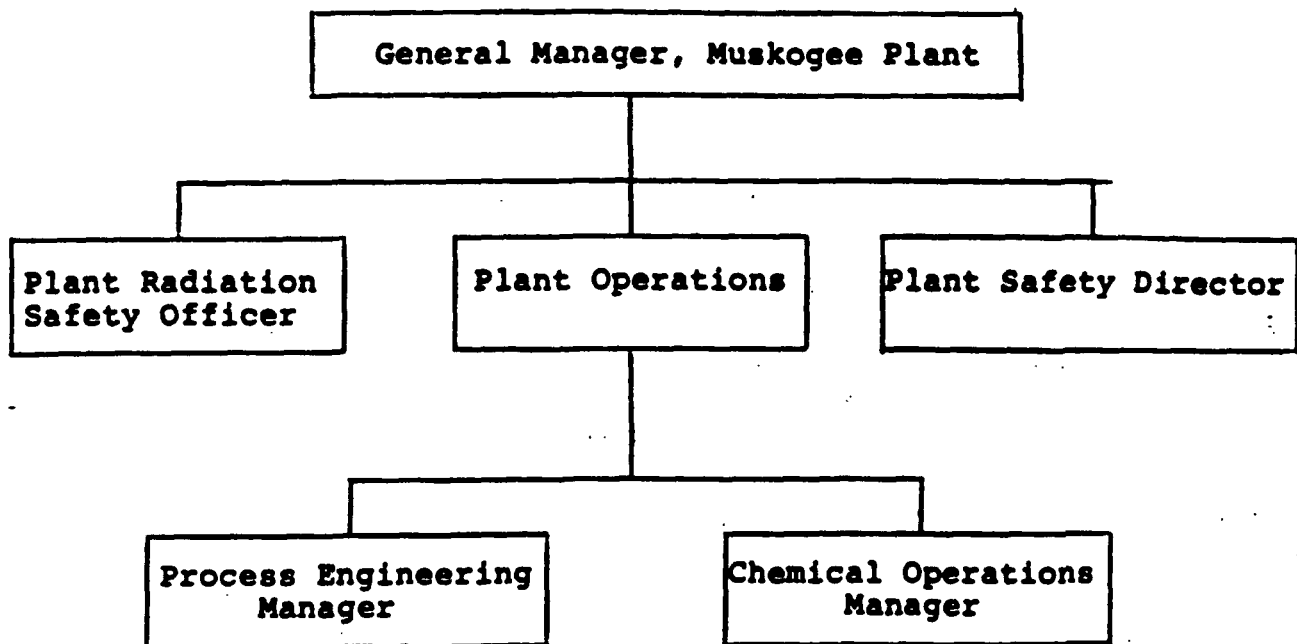


Figure 2

1. Radiation Safety Responsibilities

The Plant General Manager, who is located at the facility, is responsible for plant safety and regulatory compliance. These responsibilities are delegated to the Plant Radiation Safety Officer (PRSO), Alternate PRSO, and Plant Safety Director (PSD). The PRSO is the principal individual responsible for establishing and auditing programs for regulatory compliance affecting the use of source material. This responsibility also includes the implementation of the radiation safety program. The PRSO is assisted by the Alternate PRSO and PSD. During the absence of the PRSO, the Alternate PRSO assumes the radiation safety responsibilities. All three of the aforementioned functions are authorized to suspend any operation that threatens the health and safety of plant personnel or the public.

2. Minimum Technical Qualifications

Plant Radiation Safety Officer

The PRSO and Alternate PRSO shall have a bachelor's degree in chemistry, radiochemistry, physics, or the equivalent, and as a minimum, 5 years' experience in laboratory supervision with special training and/or experience in radiation safety. However, the licensee has not defined "equivalent" education. Therefore, the staff recommends the following condition to clarify the educational requirement:

Notwithstanding the education requirement in Section 2.2, Part 1, of the revised application, the Plant Radiation Safety Officer (PRSO) and Alternate PRSO shall each possess a bachelor's degree in the biological or physical sciences, engineering, or industrial hygiene.

3. Radiation Safety Committee

The membership of the Radiation Safety Committee (RSC) includes the Plant General Manager, Plant Radiation Safety Officer, Plant Safety Director, Process Engineering Manager, and Chemical Operations Manager. The Committee is responsible for continued improvement in operations to ensure that employee exposures and effluent releases are as low as reasonably achievable (ALARA) and that the conditions of the license are satisfied. The RSC meets bimonthly as a minimum. Committee meeting minutes are maintained, and action items are identified and tracked to insure completion. However, the licensee has not stated the the RSC's reporting requirements or specified those areas that the RSC shall review and evaluate. Accordingly, the staff recommends the following conditions to correct these deficiencies:

The minutes of the Radiation Safety Committee meetings shall be submitted, as a minimum, to the Committee members.

In addition to its other safety oversight functions, the Radiation Safety Committee shall review and evaluate, at least every 12 months, personnel exposure data, bioassay results, unusual occurrences, airborne radioactivity levels, effluent releases, and environmental monitoring to determine the following:

- a. If there are any upward trends developing in personnel exposures for identifiable categories of workers or types of operations, effluents, or concentrations of effluents in environmental samples.
- b. If exposures and effluents might be lowered in accordance with the ALARA concept.
- c. If equipment for effluent and exposure control is being properly used, maintained, and inspected.

B. Administrative Procedures

The facility operates in accordance with Standard Operating Procedures (SOPs) which are evaluated by the PRSO prior to implementation. Reviews of the SOPs are made concurrently with any major process change or addition. However, the licensee has not committed to a formal review and approval process for new and revised operating procedures. To ensure that operating procedures are evaluated and approved by management and periodically reviewed for adequacy, the staff recommends the following condition:

Prior to implementation, new and revised operating procedures for activities involving licensed material shall be evaluated by the Radiation Safety Committee and approved by the Plant General Manager and the Plant Radiation Safety Officer. Operating procedures shall be reviewed for adequacy at least every 2 years by the Radiation Safety Committee.

During an inspection of the licensee's facility, the staff observed that the radiation safety program lacked written procedures for routine radiation safety activities such as air sampling, surveys, effluent and ground water monitoring, tracking personnel exposures to airborne radioactivity, bioassays, and dosimetry control. Therefore, the staff recommends the following condition:

By July 31, 1990, the licensee shall develop and implement written procedures for radiation safety activities required by the license.

C. Audits and Inspections

An audit of the radiation safety program and an inspection of operations are made annually by the PRSO. The findings of the audit and inspection, along with any corrective actions, are documented by the PRSO and reported to the Plant General Manager. Because the staff believes that the inspection frequency should be increased and corrective actions completed in a timely manner, the following conditions are recommended:

Notwithstanding the inspection frequency in Section 2.7, Part 1, of the revised application, radiation safety inspections of facility operations shall be performed and documented quarterly by the PRSO or Alternate PRSO.

By April 30, 1990, the licensee shall develop and implement a formal procedure for the timely review and completion of corrective actions for deficiencies identified during audits of the radiation safety program and inspections of facility operations.

D. Personnel Training

The PRSO provides formal radiation safety training for new permanent and temporary employees as well as contract personnel who will be performing work onsite. Refresher training covering the initial training material is given annually to employees. Supervisors assess each individual's on-the-job performance to determine the individual's understanding of the training. Although this is a good practice and should be continued, the staff feels that individuals should be formally tested to demonstrate adequate knowledge of radiation safety procedures. Therefore, the following condition is recommended:

The licensee shall administer a written test to plant personnel to determine the effectiveness of the initial and refresher radiation safety training and maintain records of the tests and test results.

E. Records

FI has committed to maintain records required by regulations for periods as specified in the regulations or when unspecified, 2 years.

VII. RADIATION PROTECTION

A. Restricted Area - Access Control

Access to the FI facility is controlled with security fences. Within the fenced area, materials and operation areas are labelled and posted as deemed appropriate.

Protective clothing and equipment are also provided to personnel who have access to production areas. Prior to release for unrestricted use, protective clothing and equipment are monitored for fixed and removable alpha contamination.

B. Instrumentation

FI has committed to the maintenance and use of instrumentation and equipment for the measurement of radiation and radioactivity. Bench-top instruments are calibrated weekly with various standards to determine detection efficiency. Portable instruments are calibrated quarterly and after repair or maintenance that may affect the calibration. Air sampling equipment is checked quarterly to verify flow rate calibrations.

C. Systems of Exposure Control and Exposure Levels Experienced

1. External Exposure

External occupational exposures of personnel are monitored by the issuance of thermoluminescent dosimeters (TLDs) to employees who work in areas where radioactive material is present. The TLD badges are analyzed quarterly by a contract vendor. The licensee reports that exposures are normally less than 5 percent of the 10 CFR Part 20 permissible exposure limits. No administrative action levels were given since these exposures are well below the exposure limit at which personnel monitoring is required by 10 CFR 20.202(a)(1). The staff agrees that administrative actions levels are not warranted.

2. Internal Exposure

The greatest potential for radioactive materials entering the body by inhalation or ingestion exists in the crushing, milling, storage, and dissolution areas. Depending upon the location and operation, FI provides protection for personnel through the use of wet processing, ventilation equipment, and the issuance of protective clothing and respirators. However, the licensee states that no credit is given for the use of respiratory protection because annual average airborne radioactivity levels are below the concentrations specified in 10 CFR Part 20. Monitoring programs to assess internal intakes of radioactive materials include contamination surveys as well as air sampling and bioassay programs.

During milling operations, weekly 10-minute air samples are taken in the milling areas at predetermined locations. In addition, since elevated radon-progeny concentrations may exist where source material is stored, crushed, or milled, the licensee has committed to conducting quarterly sampling of radon in these areas. Personnel are also individually monitored on a quarterly basis for radon exposures.

The licensee has provided data for concentrations of airborne radioactivity and radon in work areas during the first three quarters of 1987 and from August 1986 through July 1987, respectively. Also, radon exposure data were provided for selected personnel. These data indicate that radon concentrations are well below the maximum permissible concentration (MPC) for radon-222.

The licensee uses the MPC for natural thorium as the action level for workers' exposures to airborne radioactive particulates. Although the licensee states that corrective action is taken when a weekly air sample measurement indicates that the MPC has been exceeded, the weekly measurements provided by the licensee indicate that concentrations remain elevated. Based on the licensee's air concentration measurements and practice of not recognizing respirator protection factors, the staff believes that the action level is inadequate and provides a potential for unnecessary exposure of workers. Furthermore, based on the duration and frequency of the air sampling, the staff does not agree with FI's statement that the air sampling program is representative of actual quarterly airborne concentrations. Therefore, the staff recommends the following condition to correct these deficiencies:

Notwithstanding Section 3.5, Part 1, of the revised application, the licensee shall (1) perform continuous, representative sampling of individuals' breathing air when measurements of concentrations of radioactive materials in air are necessary to demonstrate compliance with 10 CFR 20.103; (2) determine the average intake of radioactive materials by inhalation in accordance with 10 CFR 20.103(a)(1); (3) evaluate the cause and take corrective actions to prevent reoccurrence if an air sample indicates that the gross alpha activity in an individual's breathing air exceeds the maximum permissible concentration (MPC) for natural thorium (6×10^{-11} microcuries/milliliter) or 25 percent of 40 MPC-hours during any 7 consecutive days.

Intakes by an individual during a calendar quarter (13 weeks) may be reported in MPC-hours (i.e., the number of MPC-hours per calendar quarter) or as the time-weighted average of the concentrations to which the individual was exposed.

3. Description of Ventilation Systems

Ventilation systems are provided to remove airborne dust, radon, and chemical fumes. Prior to dissolution, materials may require size reduction. This is accomplished with size screening, crushing, and milling. During these operations, dust is generated and vented to a wet centrifugal collector or dust collectors. Also, gases from the dissolution and extraction processes contain some radioactive particulates. These gases are exhausted into a wet scrubber for cleaning prior to release into the atmosphere. These ventilation and effluent control systems are designed, operated, and periodically checked according to standard engineering and operating practices.

D. Contamination Control

FI has committed to a program for the control of fixed and removable surface contamination. This program includes dust collection equipment discussed in Section C.3 above, weekly surveys, and housekeeping procedures. The action level used by FI for control of surface contamination is comparable to levels used at other source material facilities with similar types of material and potential for contamination. Upon discovery, areas exceeding the action level are decontaminated. Furthermore, SOPs mandate daily housekeeping practices that include washing down and vacuuming of floors in operational areas and milling rooms, respectively, at the end of each shift and immediately when material is spilled.

The licensee has provided smear data for selected locations within the facility. Although the data indicate that areas have exceeded the 200 dpm/100 cm² action level for removable surface contamination, the subsequent weekly smears for the same areas have shown that the contamination has been reduced to below the action level.

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Personnel contamination is controlled with protective clothing (uniforms) and shoes, as well as shower facilities. Uniforms are changed daily and personnel have the option of showering. Uniforms that exceed contamination limits are laundered onsite. Work shoes and boots worn in the restricted areas remain onsite. However, the licensee has not stated any provisions to control the contamination of individuals' hands. Therefore, the staff recommends the following condition:

In addition to the protective clothing requirements in Section 3.7, Part 1, of the revised application, the licensee shall require the use of protective clothing for the hands of individuals who handle ores, tin slags, or process residues containing radioactive material.

E. Bioassay Program

The FI bioassay program provides for the collection and analysis of urine samples from individuals who have exceeded 25 percent of the permissible quarterly external exposure limits or the annual airborne concentration limits for restricted areas. However, these action levels are not appropriate for the authorized activities. Therefore, the staff recommends the following condition to ensure that the licensee has an acceptable bioassay program for individuals routinely exposed to radioactive material in ore and slag dusts and to assess the depositions of uranium and thorium in these individuals:

Notwithstanding Section 3.9, Part 1, of the revised application, for individuals required to be monitored in accordance with 10 CFR 20.103, the licensee shall, as a minimum, collect and evaluate on a quarterly basis 24-hour urine and fecal samples to assess individuals' whole body depositions of uranium and thorium. The samples shall be collected in an area free of contamination and after the individual has been removed from the contaminated work area for 2 days.

F. Release of Facilities and Equipment for Unrestricted Use

There are specifications in the revised application which define maximum levels of contamination allowed on items and equipment prior to release for unrestricted use. The staff finds these levels acceptable and recommends the following condition for decontamination guidance:

Prior to the release of facilities and equipment for unrestricted use, the facilities and equipment shall be decontaminated in accordance with the enclosed "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," dated August 1987.

G. Effluent Control

Liquid and Solid Effluents

The licensee has stated that most of the radioactive material originating in the tin slags, ores, and concentrates is found in the undissolved solids

following dissolution. FI removes the solids from the process stream by two different methods.

In the first method, the undissolved solid residues and any remaining soluble compounds are diluted with water following extraction of the tantalum and columbium compounds and pumped to a clarifying pond. The process residues are allowed to settle, and the supernatant is decanted and treated at the lime neutralization station along with liquids from the dissolution and extraction area wet scrubber. In the second method, the clarifying pond is not utilized for the removal of residues. Following dissolution of materials, the undissolved solid residues are removed from the process stream by filtration through a filter press or some other mechanical separation device. The filtrate is the feed stock for the liquid extraction process. The collected wet residues are placed in polyethylene-lined drums which are stored onsite pending disposal or transfer to an authorized facility.

Following neutralization, all plant liquids are pumped to a pond for calcium fluoride precipitation. The supernatant of this pond passes through two additional settling ponds prior to monitoring and release as liquid effluents into the Arkansas River. Because radioactive material is entrained in the wet scrubber liquids and supernatant from the residue settling pond, some of the radioactive material originating in the feed materials is deposited in these ponds.

The licensee proposes to investigate and take corrective actions when the concentration of any radionuclide in the liquid effluents exceeds 50 percent of the concentration listed in 10 CFR Part 20, Appendix B, Table II. The staff finds the action level to be inadequate and recommends the following condition:

Notwithstanding Section 4.4, Part 1, of the revised application, the licensee shall investigate and take corrective actions when the concentration of radioactive material in liquid effluents exceeds 10 percent of the concentration found in 10 CFR Part 20, Appendix B, Table II.

Air Effluents

FI controls releases of radioactivity to the atmosphere with wet scrubbers and bagfilter dust collectors. Following scrubbing or filtration, the effluent air is released to the atmosphere via several stacks. FI has provided data indicating that the quantity of radioactivity released to the atmosphere on an annual basis is very small. However, the data are based on measurements of releases occurring on a single day and are not representative of the air effluent concentrations resulting from continuous plant operations. Furthermore, FI has not committed to a stack monitoring program to demonstrate compliance with 10 CFR 20.106. Therefore, the staff recommends the following condition to correct the deficiency:

By July 31, 1990, the licensee shall develop and implement a continuous stack monitoring program that will provide measurements of radioactivity released in air effluents when the plant is operating.

VIII. DECOMMISSIONING

Based on the staff's meeting with FI representatives on January 16, 1990, and FI's letter dated January 24, 1990, the licensee has ceased processing of feed materials containing natural uranium and thorium. In the letter, the licensee stated that it intends to develop a decommissioning plan for the facility and the process residues stored onsite. The plan will address the processing of residues prior to transfer to another facility. The licensee added that it should be able to submit a decommissioning plan to NRC within the next 6 months. To incorporate the licensee's commitment into the revised license, the staff recommends the following condition:

In accordance with the letter dated January 24, 1990, the licensee shall submit by August 1, 1990, a decommissioning plan for NRC approval.

IX. EMERGENCY PLANNING

Fire protection provisions at the FI facility include smoke and flame detectors that alarm onsite and at the local fire department, strategically located fire extinguishers, a sprinkler system in the building housing the extraction process and laboratories, as well as housekeeping and emergency procedures. FI meets annually with the Muskogee City Fire Department to discuss fire hazards and prevention as well as to familiarize fire department personnel with the facility.

Furthermore, FI maintains a loss prevention program and personnel training in procedures for radiological and non-radiological incidents. The loss prevention program includes a plant emergency organization, weekly inspection of critical areas and equipment, plus reviews of proposed projects or facility changes.

X. CONCLUSION AND RECOMMENDATION

Upon completion of the safety review of the revised application, as supplemented, and the compliance history, the staff concludes that approval of the revised application, subject to the additional conditions developed by the staff, will not adversely affect the health and safety of plant personnel and the public or the environment. Therefore, the staff recommends approval of the revised application, as supplemented, subject to the staff's conditions.

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On January 18, 1990, the staff discussed the proposed license conditions with the Region IV Section Chief. It is his opinion that the proposed conditions address their concerns, and he has no objection to revising the license.

Original Signed By:

W. Scott Pennington
Uranium Fuel Section
Fuel Cycle Safety Branch
Division of Industrial and
Medical Nuclear Safety, NMSS

~~Original Signed By:~~

Approved by: _____

George H. Bidinger, Section Leader

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DATE: 2/1/90	2/6/90	2/1/90

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DOCKET NO: 40-7580

LICENSEE: Fansteel, Inc.

FACILITY: Muskogee Plant
Muskogee, Oklahoma

SUBJECT: ELIGIBILITY FOR CATEGORICAL EXCLUSION UNDER 10 CFR 51.22

I. Introduction

By application dated June 27, 1986, Fansteel, Inc., requested renewal of Source Material License No. SMB-911 authorizing the receipt, possession, use, and transfer of natural uranium and thorium contained in tin slags, ores, and process residues. In response to the staff's questions and comments, Fansteel submitted by letter dated November 3, 1987, a revised application dated October 16, 1987. Fansteel submitted supplemental information dated April 20, 1988, February 29, June 22, and September 12, 1989. Environmental information was submitted on June 27, 1986, and June 13 and August 14, 1987.

The Environmental Assessment for the license renewal application has not been completed. Accordingly, the license is being revised in its entirety to incorporate the radiation safety program but does include any changes that might adversely impact the environment. The license renewal will follow publication of the Environmental Assessment. In addition, Fansteel has submitted amendment applications dated February 28, June 21, and September 12, 1989. The applications dated February 28 and June 21, 1989, reiterate the supplemental information discussed above and, therefore, are addressed in the accompanying safety evaluation report. However, the amendment application dated September 12, 1989, and the supplement dated September 12, 1989, to the revised renewal application were not considered and will be addressed later.

II. Authorized Activities

Fansteel receives materials including tin slags, ores, and ore concentrates for recovery of tantalum and columbium. The tantalum and columbium are separated from these materials and processed into semifinished and finished products for industrial applications. Source material contained in the feed materials remains in the process residues. The general activities being assessed in this review include:

1. Receipt and storage of tin slags, ores, and ore concentrates.
2. Sizing, crushing, milling, conveying, and dissolution of these materials.
3. Recovery of columbium and tantalum by solvent extraction.
4. Collection and handling of solid residues.
5. Liquid and air effluent controls.

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III. Application Review

In the revised application and supplements dated April 20, 1988, and February 29 and June 22, 1989, the staff reviewed the licensee's commitments concerning organization and administration of the radiation safety program. The proposed commitments are in Part 1, Chapters 1 through 5; Part 2, Chapter 6, paragraphs 5 and 6 on page 6-5, and Sections 6.3 and 6.4; and Sections 3.1, 3.2, and 3.3 of the Radiation Safety Manual. The remaining parts of Part 2 and the Radiation Safety Manual describe current or proposed activities at the site and demonstrate Fansteel's administrative practices and technical capabilities.

IV. Conclusion

The staff has concluded that the changes to be authorized by this licensing action are administrative, procedural or changes in operations which meet the conditions that (i) there is no significant change in the types or significant increase in the amounts of effluents that may be released offsite, (ii) there is no significant increase in individual or cumulative occupational radiation exposure, (iii) there is no significant construction impact, and (iv) there is no significant increase in the potential for or consequences from radiological accidents. Therefore, in accordance with 10 CFR 51.22(c)(11), an environmental assessment or an environmental impact statement is not warranted for this action.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Original Signed By:

Glen L. Sjoblom, Acting Chief
Fuel Cycle Safety Branch
Division of Industrial and
Medical Nuclear Safety, NMSS

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